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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/825,787	04/16/2004	Mariam N. Maghribi	IL-11206	9076
7590	04/11/2006		EXAMINER HELLER, TAMMIE K	
Eddie E. Scott Assistant Laboratory Counsel Lawrence Livermore National Laboratory P.O. Box 808, L-703 Livermore, CA 94551			ART UNIT 3766	PAPER NUMBER

DATE MAILED: 04/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/825,787	<b>Applicant(s)</b> MAGHRIBI ET AL.	
	<b>Examiner</b> Tammie Heller	<b>Art Unit</b> 3766	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 April 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-51 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1-51 are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Election/Restrictions*

1. This application contains claims directed to the following patentably distinct species:

Species 1a, drawn to an embodiment of the invention in which at least one circuit line is S-shaped, the stretchable polymer body is silicone, the circuit line is a conductive ink, and the stretchable polymer body comprises a microcable, corresponding to claims (2 and 21), (9, 28, and 36), (11 and 30), and (18 and 50);

Species 1b, drawn to an embodiment of the invention in which at least one circuit line is S-shaped, the stretchable polymer body is silicone, the circuit line is a conductive ink, and the stretchable polymer body comprises an electronic device, corresponding to claims (2 and 21), (9, 28, and 36), (11 and 30), and (19 and 51);

Species 1c, drawn to an embodiment of the invention in which at least one circuit line is S-shaped, the stretchable polymer body is silicone, the circuit line is a conductive wire, and the stretchable polymer body comprises a microcable, corresponding to claims (2 and 21), (9, 28, and 36), (12 and 31), and (18 and 50);

Species 1d, drawn to an embodiment of the invention in which at least one circuit line is S-shaped, the stretchable polymer body is silicone, the circuit line is

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a conductive wire, and the stretchable polymer body comprises an electronic device, corresponding to claims (2 and 21), (9, 28, and 36), (12 and 31), and (19 and 51);

Species 1e, drawn to an embodiment of the invention in which at least one circuit line is S-shaped, the stretchable polymer body is silicone, the circuit line is a micron-scale wire, and the stretchable polymer body comprises a microcable, corresponding to claims (2 and 21), (9, 28, and 36), (13 and 32), and (18 and 50);

Species 1f, drawn to an embodiment of the invention in which at least one circuit line is S-shaped, the stretchable polymer body is silicone, the circuit line is a micron-scale wire, and the stretchable polymer body comprises an electronic device, corresponding to claims (2 and 21), (9, 28, and 36), (13 and 32), and (19 and 51);

Species 1g, drawn to an embodiment of the invention in which at least one circuit line is S-shaped, the stretchable polymer body is silicone, the circuit line is a conductive metal paste, and the stretchable polymer body comprises a microcable, corresponding to claims (2 and 21), (9, 28, and 36), 14, and (18 and 50);

Species 1h, drawn to an embodiment of the invention in which at least one circuit line is S-shaped, the stretchable polymer body is silicone, the circuit line is a conductive metal paste, and the stretchable polymer body comprises an

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electronic device, corresponding to claims (2 and 21), (9, 28, and 36), 14, and (19 and 51);

Species 1i, drawn to an embodiment of the invention in which at least one circuit line is S-shaped, the stretchable polymer body is silicone, the circuit line is a photolytic metal material, and the stretchable polymer body comprises a microcable, corresponding to claims (2 and 21), (9, 28, and 36), 15, and (18 and 50);

Species 1j, drawn to an embodiment of the invention in which at least one circuit line is S-shaped, the stretchable polymer body is silicone, the circuit line is a photolytic metal material, and the stretchable polymer body comprises an electronic device, corresponding to claims (2 and 21), (9, 28, and 36), 15, and (19 and 51);

Species 1k, drawn to an embodiment of the invention in which at least one circuit line is S-shaped, the stretchable polymer body is silicone, the circuit line is a conductive polymer, and the stretchable polymer body comprises a microcable, corresponding to claims (2 and 21), (9, 28, and 36), (16 and 33), and (18 and 50);

Species 1l, drawn to an embodiment of the invention in which at least one circuit line is S-shaped, the stretchable polymer body is silicone, the circuit line is a conductive polymer, and the stretchable polymer body comprises an electronic device, corresponding to claims (2 and 21), (9, 28, and 36), (16 and 33), and (19 and 51);

Species 1m, drawn to an embodiment of the invention in which at least one circuit line is S-shaped, the stretchable polymer body is silicone, the circuit line is a fluidic circuit line, and the stretchable polymer body comprises a microcable, corresponding to claims (2 and 21), (9, 28, and 36), (17 and 34), and (18 and 50);

Species 1n, drawn to an embodiment of the invention in which at least one circuit line is S-shaped, the stretchable polymer body is silicone, the circuit line is a fluidic circuit line, and the stretchable polymer body comprises an electronic device, corresponding to claims (2 and 21), (9, 28, and 36), (17 and 34), and (19 and 51);

Species 1aa, drawn to an embodiment of the invention in which at least one circuit line is S-shaped, the stretchable polymer body is poly(dimethylsiloxane), the circuit line is a conductive ink, and the stretchable polymer body comprises a microcable, corresponding to claims (2 and 21), (10, 29, and 37), (11 and 30), and (18 and 50);

Species 1bb, drawn to an embodiment of the invention in which at least one circuit line is S-shaped, the stretchable polymer body is poly(dimethylsiloxane), the circuit line is a conductive ink, and the stretchable polymer body comprises an electronic device, corresponding to claims (2 and 21), (10, 29, and 37), (11 and 30), and (19 and 51);

Species 1cc, drawn to an embodiment of the invention in which at least one circuit line is S-shaped, the stretchable polymer body is poly(dimethylsiloxane), the circuit line is a conductive wire, and the stretchable polymer body comprises a microcable, corresponding to claims (2 and 21), (10, 29, and 37), (12 and 31), and (18 and 50);

Species 1dd, drawn to an embodiment of the invention in which at least one circuit line is S-shaped, the stretchable polymer body is poly(dimethylsiloxane), the circuit line is a conductive wire, and the stretchable polymer body comprises an electronic device, corresponding to claims (2 and 21), (10, 29, and 37), (12 and 31), and (19 and 51);

Species 1ee, drawn to an embodiment of the invention in which at least one circuit line is S-shaped, the stretchable polymer body is poly(dimethylsiloxane), the circuit line is a micron-scale wire, and the stretchable polymer body comprises a microcable, corresponding to claims (2 and 21), (10, 29, and 37), (13 and 32), and (18 and 50);

Species 1ff, drawn to an embodiment of the invention in which at least one circuit line is S-shaped, the stretchable polymer body is poly(dimethylsiloxane), the circuit line is a micron-scale wire, and the stretchable polymer body comprises an electronic device, corresponding to claims (2 and 21), (10, 29, and 37), (13 and 32), and (19 and 51);

Species 1gg, drawn to an embodiment of the invention in which at least one circuit line is S-shaped, the stretchable polymer body is

poly(dimethylsiloxane), the circuit line is a conductive metal paste, and the stretchable polymer body comprises a microcable, corresponding to claims (2 and 21), (10, 29, and 37), 14, and (18 and 50);

Species 1hh, drawn to an embodiment of the invention in which at least one circuit line is S-shaped, the stretchable polymer body is poly(dimethylsiloxane), the circuit line is a conductive metal paste, and the stretchable polymer body comprises an electronic device, corresponding to claims (2 and 21), (10, 29, and 37), 14, and (19 and 51);

Species 1ii, drawn to an embodiment of the invention in which at least one circuit line is S-shaped, the stretchable polymer body is poly(dimethylsiloxane), the circuit line is a photolytic metal material, and the stretchable polymer body comprises a microcable, corresponding to claims (2 and 21), (10, 29, and 37), 15, and (18 and 50);

Species 1jj, drawn to an embodiment of the invention in which at least one circuit line is S-shaped, the stretchable polymer body is poly(dimethylsiloxane), the circuit line is a photolytic metal material, and the stretchable polymer body comprises an electronic device, corresponding to claims (2 and 21), (10, 29, and 37), 15, and (19 and 51);

Species 1kk, drawn to an embodiment of the invention in which at least one circuit line is S-shaped, the stretchable polymer body is poly(dimethylsiloxane), the circuit line is a conductive polymer, and the

stretchable polymer body comprises a microcable, corresponding to claims (2 and 21), (10, 29, and 37), (16 and 33), and (18 and 50);

Species 1ll, drawn to an embodiment of the invention in which at least one circuit line is S-shaped, the stretchable polymer body is poly(dimethylsiloxane), the circuit line is a conductive polymer, and the stretchable polymer body comprises an electronic device, corresponding to claims (2 and 21), (10, 29, and 37), (16 and 33), and (19 and 51);

Species 1mm, drawn to an embodiment of the invention in which at least one circuit line is S-shaped, the stretchable polymer body is poly(dimethylsiloxane), the circuit line is a fluidic circuit line, and the stretchable polymer body comprises a microcable, corresponding to claims (2 and 21), (10, 29, and 37), (17 and 34), and (18 and 50);

Species 1nn, drawn to an embodiment of the invention in which at least one circuit line is S-shaped, the stretchable polymer body is poly(dimethylsiloxane), the circuit line is a fluidic circuit line, and the stretchable polymer body comprises an electronic device, corresponding to claims (2 and 21), (10, 29, and 37), (17 and 34), and (19 and 51);

Species 2a, drawn to an embodiment of the invention in which at least one circuit line is sawtooth shaped, the stretchable polymer body is silicone, the circuit line is a conductive ink, and the stretchable polymer body comprises a

microcable, corresponding to claims (3, 8, 22, and 27), (9, 28, and 36), (11 and 30), and (18 and 50);

Species 2b, drawn to an embodiment of the invention in which at least one circuit line is sawtooth shaped, the stretchable polymer body is silicone, the circuit line is a conductive ink, and the stretchable polymer body comprises an electronic device, corresponding to claims (3, 8, 22, and 27), (9, 28, and 36), (11 and 30), and (19 and 51);

Species 2c, drawn to an embodiment of the invention in which at least one circuit line is sawtooth shaped, the stretchable polymer body is silicone, the circuit line is a conductive wire, and the stretchable polymer body comprises a microcable, corresponding to claims (3, 8, 22, and 27), (9, 28, and 36), (12 and 31), and (18 and 50);

Species 2d, drawn to an embodiment of the invention in which at least one circuit line is sawtooth shaped, the stretchable polymer body is silicone, the circuit line is a conductive wire, and the stretchable polymer body comprises an electronic device, corresponding to claims (3, 8, 22, and 27), (9, 28, and 36), (12 and 31), and (19 and 51);

Species 2e, drawn to an embodiment of the invention in which at least one circuit line is sawtooth shaped, the stretchable polymer body is silicone, the circuit line is a micron-scale wire, and the stretchable polymer body comprises a microcable, corresponding to claims (3, 8, 22, and 27), (9, 28, and 36), (13 and 32), and (18 and 50);

Species 2f, drawn to an embodiment of the invention in which at least one circuit line is sawtooth shaped, the stretchable polymer body is silicone, the circuit line is a micron-scale wire, and the stretchable polymer body comprises an electronic device, corresponding to claims (3, 8, 22, and 27), (9, 28, and 36), (13 and 32), and (19 and 51);

Species 2g, drawn to an embodiment of the invention in which at least one circuit line is sawtooth shaped, the stretchable polymer body is silicone, the circuit line is a conductive metal paste, and the stretchable polymer body comprises a microcable, corresponding to claims (3, 8, 22, and 27), (9, 28, and 36), 14, and (18 and 50);

Species 2h, drawn to an embodiment of the invention in which at least one circuit line is sawtooth shaped, the stretchable polymer body is silicone, the circuit line is a conductive metal paste, and the stretchable polymer body comprises an electronic device, corresponding to claims (3, 8, 22, and 27), (9, 28, and 36), 14, and (19 and 51);

Species 2i, drawn to an embodiment of the invention in which at least one circuit line is sawtooth shaped, the stretchable polymer body is silicone, the circuit line is a photolytic metal material, and the stretchable polymer body comprises a microcable, corresponding to claims (3, 8, 22, and 27), (9, 28, and 36), 15, and (18 and 50);

Species 2j, drawn to an embodiment of the invention in which at least one circuit line is sawtooth shaped, the stretchable polymer body is silicone, the

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circuit line is a photolytic metal material, and the stretchable polymer body comprises an electronic device, corresponding to claims (3, 8, 22, and 27), (9, 28, and 36), 15, and (19 and 51);

Species 2k, drawn to an embodiment of the invention in which at least one circuit line is sawtooth shaped, the stretchable polymer body is silicone, the circuit line is a conductive polymer, and the stretchable polymer body comprises a microcable, corresponding to claims (3, 8, 22, and 27), (9, 28, and 36), (16 and 33), and (18 and 50);

Species 2l, drawn to an embodiment of the invention in which at least one circuit line is sawtooth shaped, the stretchable polymer body is silicone, the circuit line is a conductive polymer, and the stretchable polymer body comprises an electronic device, corresponding to claims (3, 8, 22, and 27), (9, 28, and 36), (16 and 33), and (19 and 51);

Species 2m, drawn to an embodiment of the invention in which at least one circuit line is sawtooth shaped, the stretchable polymer body is silicone, the circuit line is a fluidic circuit line, and the stretchable polymer body comprises a microcable, corresponding to claims (3, 8, 22, and 27), (9, 28, and 36), (17 and 34), and (18 and 50);

Species 2n, drawn to an embodiment of the invention in which at least one circuit line is sawtooth shaped, the stretchable polymer body is silicone, the circuit line is a fluidic circuit line, and the stretchable polymer body comprises an

electronic device, corresponding to claims (3, 8, 22, and 27), (9, 28, and 36), (17 and 34), and (19 and 51);

Species 2aa, drawn to an embodiment of the invention in which at least one circuit line is sawtooth shaped, the stretchable polymer body is poly(dimethylsiloxane), the circuit line is a conductive ink, and the stretchable polymer body comprises a microcable, corresponding to claims (3, 8, 22, and 27), (10, 29, and 37), (11 and 30), and (18 and 50);

Species 2bb, drawn to an embodiment of the invention in which at least one circuit line is sawtooth shaped, the stretchable polymer body is poly(dimethylsiloxane), the circuit line is a conductive ink, and the stretchable polymer body comprises an electronic device, corresponding to claims (3, 8, 22, and 27), (10, 29, and 37), (11 and 30), and (19 and 51);

Species 2cc, drawn to an embodiment of the invention in which at least one circuit line is sawtooth shaped, the stretchable polymer body is poly(dimethylsiloxane), the circuit line is a conductive wire, and the stretchable polymer body comprises a microcable, corresponding to claims (3, 8, 22, and 27), (10, 29, and 37), (12 and 31), and (18 and 50);

Species 2dd, drawn to an embodiment of the invention in which at least one circuit line is sawtooth shaped, the stretchable polymer body is poly(dimethylsiloxane), the circuit line is a conductive wire, and the stretchable

polymer body comprises an electronic device, corresponding to claims (3, 8, 22, and 27), (10, 29, and 37), (12 and 31), and (19 and 51);

Species 2ee, drawn to an embodiment of the invention in which at least one circuit line is sawtooth shaped, the stretchable polymer body is poly(dimethylsiloxane), the circuit line is a micron-scale wire, and the stretchable polymer body comprises a microcable, corresponding to claims (3, 8, 22, and 27), (10, 29, and 37), (13 and 32), and (18 and 50);

Species 2ff, drawn to an embodiment of the invention in which at least one circuit line is sawtooth shaped, the stretchable polymer body is poly(dimethylsiloxane), the circuit line is a micron-scale wire, and the stretchable polymer body comprises an electronic device, corresponding to claims (3, 8, 22, and 27), (10, 29, and 37), (13 and 32), and (19 and 51);

Species 2gg, drawn to an embodiment of the invention in which at least one circuit line is sawtooth shaped, the stretchable polymer body is poly(dimethylsiloxane), the circuit line is a conductive metal paste, and the stretchable polymer body comprises a microcable, corresponding to claims (3, 8, 22, and 27), (10, 29, and 37), 14, and (18 and 50);

Species 2hh, drawn to an embodiment of the invention in which at least one circuit line is sawtooth shaped, the stretchable polymer body is poly(dimethylsiloxane), the circuit line is a conductive metal paste, and the stretchable polymer body comprises an electronic device, corresponding to claims (3, 8, 22, and 27), (10, 29, and 37), 14, and (19 and 51);

Species 2ii, drawn to an embodiment of the invention in which at least one circuit line is sawtooth shaped, the stretchable polymer body is poly(dimethylsiloxane), the circuit line is a photolytic metal material, and the stretchable polymer body comprises a microcable, corresponding to claims (3, 8, 22, and 27), (10, 29, and 37), 15, and (18 and 50);

Species 2jj, drawn to an embodiment of the invention in which at least one circuit line is sawtooth shaped, the stretchable polymer body is poly(dimethylsiloxane), the circuit line is a photolytic metal material, and the stretchable polymer body comprises an electronic device, corresponding to claims (3, 8, 22, and 27), (10, 29, and 37), 15, and (19 and 51);

Species 2kk, drawn to an embodiment of the invention in which at least one circuit line is sawtooth shaped, the stretchable polymer body is poly(dimethylsiloxane), the circuit line is a conductive polymer, and the stretchable polymer body comprises a microcable, corresponding to claims (3, 8, 22, and 27), (10, 29, and 37), (16 and 33), and (18 and 50);

Species 2ll, drawn to an embodiment of the invention in which at least one circuit line is sawtooth shaped, the stretchable polymer body is poly(dimethylsiloxane), the circuit line is a conductive polymer, and the stretchable polymer body comprises an electronic device, corresponding to claims (3, 8, 22, and 27), (10, 29, and 37), (16 and 33), and (19 and 51);

Species 2mm, drawn to an embodiment of the invention in which at least one circuit line is sawtooth shaped, the stretchable polymer body is

poly(dimethylsiloxane), the circuit line is a fluidic circuit line, and the stretchable polymer body comprises a microcable, corresponding to claims (3, 8, 22, and 27), (10, 29, and 37), (17 and 34), and (18 and 50);

Species 2nn, drawn to an embodiment of the invention in which at least one circuit line is sawtooth shaped, the stretchable polymer body is poly(dimethylsiloxane), the circuit line is a fluidic circuit line, and the stretchable polymer body comprises an electronic device, corresponding to claims (3, 8, 22, and 27), (10, 29, and 37), (17 and 34), and (19 and 51);

Species 3a, drawn to an embodiment of the invention in which at least one circuit line is sawtooth shaped with sawtooth segments at an angle of 45° to each other, the stretchable polymer body is silicone, the circuit line is a conductive ink, and the stretchable polymer body comprises a microcable, corresponding to claims (4 and 23), (9, 28, and 36), (11 and 30), and (18 and 50);

Species 3b, drawn to an embodiment of the invention in which at least one circuit line is sawtooth shaped with sawtooth segments at an angle of 45° to each other, the stretchable polymer body is silicone, the circuit line is a conductive ink, and the stretchable polymer body comprises an electronic device, corresponding to claims (4 and 23), (9, 28, and 36), (11 and 30), and (19 and 51);

Species 3c, drawn to an embodiment of the invention in which at least one circuit line is sawtooth shaped with sawtooth segments at an angle of 45° to each other, the stretchable polymer body is silicone, the circuit line is a conductive

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wire, and the stretchable polymer body comprises a microcable, corresponding to claims (4 and 23), (9, 28, and 36), (12 and 31), and (18 and 50);

Species 3d, drawn to an embodiment of the invention in which at least one circuit line is sawtooth shaped with sawtooth segments at an angle of  $45^\circ$  to each other, the stretchable polymer body is silicone, the circuit line is a conductive wire, and the stretchable polymer body comprises an electronic device, corresponding to claims (4 and 23), (9, 28, and 36), (12 and 31), and (19 and 51);

Species 3e, drawn to an embodiment of the invention in which at least one circuit line is sawtooth shaped with sawtooth segments at an angle of  $45^\circ$  to each other, the stretchable polymer body is silicone, the circuit line is a micron-scale wire, and the stretchable polymer body comprises a microcable, corresponding to claims (4 and 23), (9, 28, and 36), (13 and 32), and (18 and 50);

Species 3f, drawn to an embodiment of the invention in which at least one circuit line is sawtooth shaped with sawtooth segments at an angle of  $45^\circ$  to each other, the stretchable polymer body is silicone, the circuit line is a micron-scale wire, and the stretchable polymer body comprises an electronic device, corresponding to claims (4 and 23), (9, 28, and 36), (13 and 32), and (19 and 51);

Species 3g, drawn to an embodiment of the invention in which at least one circuit line is sawtooth shaped with sawtooth segments at an angle of  $45^\circ$  to each other, the stretchable polymer body is silicone, the circuit line is a conductive

metal paste, and the stretchable polymer body comprises a microcable, corresponding to claims (4 and 23), (9, 28, and 36), 14, and (18 and 50);

Species 3h, drawn to an embodiment of the invention in which at least one circuit line is sawtooth shaped with sawtooth segments at an angle of 45° to each other, the stretchable polymer body is silicone, the circuit line is a conductive metal paste, and the stretchable polymer body comprises an electronic device, corresponding to claims (4 and 23), (9, 28, and 36), 14, and (19 and 51);

Species 3i, drawn to an embodiment of the invention in which at least one circuit line is sawtooth shaped with sawtooth segments at an angle of 45° to each other, the stretchable polymer body is silicone, the circuit line is a photolytic metal material, and the stretchable polymer body comprises a microcable, corresponding to claims (4 and 23), (9, 28, and 36), 15, and (18 and 50);

Species 3j, drawn to an embodiment of the invention in which at least one circuit line is sawtooth shaped with sawtooth segments at an angle of 45° to each other, the stretchable polymer body is silicone, the circuit line is a photolytic metal material, and the stretchable polymer body comprises an electronic device, corresponding to claims (4 and 23), (9, 28, and 36), 15, and (19 and 51);

Species 3k, drawn to an embodiment of the invention in which at least one circuit line is sawtooth shaped with sawtooth segments at an angle of 45° to each other, the stretchable polymer body is silicone, the circuit line is a conductive polymer, and the stretchable polymer body comprises a microcable,

corresponding to claims (4 and 23), (9, 28, and 36), (16 and 33), and (18 and 50);

Species 3l, drawn to an embodiment of the invention in which at least one circuit line is sawtooth shaped with sawtooth segments at an angle of 45° to each other, the stretchable polymer body is silicone, the circuit line is a conductive polymer, and the stretchable polymer body comprises an electronic device, corresponding to claims (4 and 23), (9, 28, and 36), (16 and 33), and (19 and 51);

Species 3m, drawn to an embodiment of the invention in which at least one circuit line is sawtooth shaped with sawtooth segments at an angle of 45° to each other, the stretchable polymer body is silicone, the circuit line is a fluidic circuit line, and the stretchable polymer body comprises a microcable, corresponding to claims (4 and 23), (9, 28, and 36), (17 and 34), and (18 and 50);

Species 3n, drawn to an embodiment of the invention in which at least one circuit line is sawtooth shaped with sawtooth segments at an angle of 45° to each other, the stretchable polymer body is silicone, the circuit line is a fluidic circuit line, and the stretchable polymer body comprises an electronic device, corresponding to claims (4 and 23), (9, 28, and 36), (17 and 34), and (19 and 51);

Species 3aa, drawn to an embodiment of the invention in which at least one circuit line is sawtooth shaped with sawtooth segments at an angle of  $45^{\circ}$  to each other, the stretchable polymer body is poly(dimethylsiloxane), the circuit line is a conductive ink, and the stretchable polymer body comprises a microcable, corresponding to claims (4 and 23), (10, 29, and 37), (11 and 30), and (18 and 50);

Species 3bb, drawn to an embodiment of the invention in which at least one circuit line is sawtooth shaped with sawtooth segments at an angle of  $45^{\circ}$  to each other, the stretchable polymer body is poly(dimethylsiloxane), the circuit line is a conductive ink, and the stretchable polymer body comprises an electronic device, corresponding to claims (4 and 23), (10, 29, and 37), (11 and 30), and (19 and 51);

Species 3cc, drawn to an embodiment of the invention in which at least one circuit line is sawtooth shaped with sawtooth segments at an angle of  $45^{\circ}$  to each other, the stretchable polymer body is poly(dimethylsiloxane), the circuit line is a conductive wire, and the stretchable polymer body comprises a microcable, corresponding to claims (4 and 23), (10, 29, and 37), (12 and 31), and (18 and 50);

Species 3dd, drawn to an embodiment of the invention in which at least one circuit line is sawtooth shaped with sawtooth segments at an angle of  $45^{\circ}$  to each other, the stretchable polymer body is poly(dimethylsiloxane), the circuit line is a conductive wire, and the stretchable polymer body comprises an electronic

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device, corresponding to claims (4 and 23), (10, 29, and 37), (12 and 31), and (19 and 51);

Species 3ee, drawn to an embodiment of the invention in which at least one circuit line is sawtooth shaped with sawtooth segments at an angle of  $45^\circ$  to each other, the stretchable polymer body is poly(dimethylsiloxane), the circuit line is a micron-scale wire, and the stretchable polymer body comprises a microcable, corresponding to claims (4 and 23), (10, 29, and 37), (13 and 32), and (18 and 50);

Species 3ff, drawn to an embodiment of the invention in which at least one circuit line is sawtooth shaped with sawtooth segments at an angle of  $45^\circ$  to each other, the stretchable polymer body is poly(dimethylsiloxane), the circuit line is a micron-scale wire, and the stretchable polymer body comprises an electronic device, corresponding to claims (4 and 23), (10, 29, and 37), (13 and 32), and (19 and 51);

Species 3gg, drawn to an embodiment of the invention in which at least one circuit line is sawtooth shaped with sawtooth segments at an angle of  $45^\circ$  to each other, the stretchable polymer body is poly(dimethylsiloxane), the circuit line is a conductive metal paste, and the stretchable polymer body comprises a microcable, corresponding to claims (4 and 23), (10, 29, and 37), 14, and (18 and 50);

Species 3hh, drawn to an embodiment of the invention in which at least one circuit line is sawtooth shaped with sawtooth segments at an angle of  $45^\circ$  to

each other, the stretchable polymer body is poly(dimethylsiloxane), the circuit line is a conductive metal paste, and the stretchable polymer body comprises an electronic device, corresponding to claims (4 and 23), (10, 29, and 37), 14, and (19 and 51);

Species 3ii, drawn to an embodiment of the invention in which at least one circuit line is sawtooth shaped with sawtooth segments at an angle of  $45^{\circ}$  to each other, the stretchable polymer body is poly(dimethylsiloxane), the circuit line is a photolytic metal material, and the stretchable polymer body comprises a microcable, corresponding to claims (4 and 23), (10, 29, and 37), 15, and (18 and 50);

Species 3jj, drawn to an embodiment of the invention in which at least one circuit line is sawtooth shaped with sawtooth segments at an angle of  $45^{\circ}$  to each other, the stretchable polymer body is poly(dimethylsiloxane), the circuit line is a photolytic metal material, and the stretchable polymer body comprises an electronic device, corresponding to claims (4 and 23), (10, 29, and 37), 15, and (19 and 51);

Species 3kk, drawn to an embodiment of the invention in which at least one circuit line is sawtooth shaped with sawtooth segments at an angle of  $45^{\circ}$  to each other, the stretchable polymer body is poly(dimethylsiloxane), the circuit line is a conductive polymer, and the stretchable polymer body comprises a microcable, corresponding to claims (4 and 23), (10, 29, and 37), (16 and 33), and (18 and 50);

Species 3ll, drawn to an embodiment of the invention in which at least one circuit line is sawtooth shaped with sawtooth segments at an angle of 45° to each other, the stretchable polymer body is poly(dimethylsiloxane), the circuit line is a conductive polymer, and the stretchable polymer body comprises an electronic device, corresponding to claims (4 and 23), (10, 29, and 37), (16 and 33), and (19 and 51);

Species 3mm, drawn to an embodiment of the invention in which at least one circuit line is sawtooth shaped with sawtooth segments at an angle of 45° to each other, the stretchable polymer body is poly(dimethylsiloxane), the circuit line is a fluidic circuit line, and the stretchable polymer body comprises a microcable, corresponding to claims (4 and 23), (10, 29, and 37), (17 and 34), and (18 and 50);

Species 3nn, drawn to an embodiment of the invention in which at least one circuit line is sawtooth shaped with sawtooth segments at an angle of 45° to each other, the stretchable polymer body is poly(dimethylsiloxane), the circuit line is a fluidic circuit line, and the stretchable polymer body comprises an electronic device, corresponding to claims (4 and 23), (10, 29, and 37), (17 and 34), and (19 and 51);

Species 4a, drawn to an embodiment of the invention in which at least one circuit line is sawtooth shaped with the sawtooth having rounded corners, the stretchable polymer body is silicone, the circuit line is a conductive ink, and the

stretchable polymer body comprises a microcable, corresponding to claims (5 and 24), (9, 28, and 36), (11 and 30), and (18 and 50);

Species 4b, drawn to an embodiment of the invention in which at least one circuit line is sawtooth shaped with the sawtooth having rounded corners, the stretchable polymer body is silicone, the circuit line is a conductive ink, and the stretchable polymer body comprises an electronic device, corresponding to claims (5 and 24), (9, 28, and 36), (11 and 30), and (19 and 51);

Species 4c, drawn to an embodiment of the invention in which at least one circuit line is sawtooth shaped with the sawtooth having rounded corners, the stretchable polymer body is silicone, the circuit line is a conductive wire, and the stretchable polymer body comprises a microcable, corresponding to claims (5 and 24), (9, 28, and 36), (12 and 31), and (18 and 50);

Species 4d, drawn to an embodiment of the invention in which at least one circuit line is sawtooth shaped with the sawtooth having rounded corners, the stretchable polymer body is silicone, the circuit line is a conductive wire, and the stretchable polymer body comprises an electronic device, corresponding to claims (5 and 24), (9, 28, and 36), (12 and 31), and (19 and 51);

Species 4e, drawn to an embodiment of the invention in which at least one circuit line is sawtooth shaped with the sawtooth having rounded corners, the stretchable polymer body is silicone, the circuit line is a micron-scale wire, and the stretchable polymer body comprises a microcable, corresponding to claims (5 and 24), (9, 28, and 36), (13 and 32), and (18 and 50);

Species 4f, drawn to an embodiment of the invention in which at least one circuit line is sawtooth shaped with the sawtooth having rounded corners, the stretchable polymer body is silicone, the circuit line is a micron-scale wire, and the stretchable polymer body comprises an electronic device, corresponding to claims (5 and 24), (9, 28, and 36), (13 and 32), and (19 and 51);

Species 4g, drawn to an embodiment of the invention in which at least one circuit line is sawtooth shaped with the sawtooth having rounded corners, the stretchable polymer body is silicone, the circuit line is a conductive metal paste, and the stretchable polymer body comprises a microcable, corresponding to claims (5 and 24), (9, 28, and 36), 14, and (18 and 50);

Species 4h, drawn to an embodiment of the invention in which at least one circuit line is sawtooth shaped with the sawtooth having rounded corners, the stretchable polymer body is silicone, the circuit line is a conductive metal paste, and the stretchable polymer body comprises an electronic device, corresponding to claims (5 and 24), (9, 28, and 36), 14, and (19 and 51);

Species 4i, drawn to an embodiment of the invention in which at least one circuit line is sawtooth shaped with the sawtooth having rounded corners, the stretchable polymer body is silicone, the circuit line is a photolytic metal material, and the stretchable polymer body comprises a microcable, corresponding to claims (5 and 24), (9, 28, and 36), 15, and (18 and 50);

Species 4j, drawn to an embodiment of the invention in which at least one circuit line is sawtooth shaped with the sawtooth having rounded corners, the

stretchable polymer body is silicone, the circuit line is a photolytic metal material, and the stretchable polymer body comprises an electronic device, corresponding to claims (5 and 24), (9, 28, and 36), 15, and (19 and 51);

Species 4k, drawn to an embodiment of the invention in which at least one circuit line is sawtooth shaped with the sawtooth having rounded corners, the stretchable polymer body is silicone, the circuit line is a conductive polymer, and the stretchable polymer body comprises a microcable, corresponding to claims (5 and 24), (9, 28, and 36), (16 and 33), and (18 and 50);

Species 4l, drawn to an embodiment of the invention in which at least one circuit line is sawtooth shaped with the sawtooth having rounded corners, the stretchable polymer body is silicone, the circuit line is a conductive polymer, and the stretchable polymer body comprises an electronic device, corresponding to claims (5 and 24), (9, 28, and 36), (16 and 33), and (19 and 51);

Species 4m, drawn to an embodiment of the invention in which at least one circuit line is sawtooth shaped with the sawtooth having rounded corners, the stretchable polymer body is silicone, the circuit line is a fluidic circuit line, and the stretchable polymer body comprises a microcable, corresponding to claims (5 and 24), (9, 28, and 36), (17 and 34), and (18 and 50);

Species 4n, drawn to an embodiment of the invention in which at least one circuit line is sawtooth shaped with the sawtooth having rounded corners, the stretchable polymer body is silicone, the circuit line is a fluidic circuit line, and the

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stretchable polymer body comprises an electronic device, corresponding to claims (5 and 24), (9, 28, and 36), (17 and 34), and (19 and 51);

Species 4aa, drawn to an embodiment of the invention in which at least one circuit line is sawtooth shaped with the sawtooth having rounded corners, the stretchable polymer body is poly(dimethylsiloxane), the circuit line is a conductive ink, and the stretchable polymer body comprises a microcable, corresponding to claims (5 and 24), (10, 29, and 37), (11 and 30), and (18 and 50);

Species 4bb, drawn to an embodiment of the invention in which at least one circuit line is sawtooth shaped with the sawtooth having rounded corners, the stretchable polymer body is poly(dimethylsiloxane), the circuit line is a conductive ink, and the stretchable polymer body comprises an electronic device, corresponding to claims (5 and 24), (10, 29, and 37), (11 and 30), and (19 and 51);

Species 4cc, drawn to an embodiment of the invention in which at least one circuit line is sawtooth shaped with the sawtooth having rounded corners, the stretchable polymer body is poly(dimethylsiloxane), the circuit line is a conductive wire, and the stretchable polymer body comprises a microcable, corresponding to claims (5 and 24), (10, 29, and 37), (12 and 31), and (18 and 50);

Species 4dd, drawn to an embodiment of the invention in which at least one circuit line is sawtooth shaped with the sawtooth having rounded corners, the stretchable polymer body is poly(dimethylsiloxane), the circuit line is a conductive

wire, and the stretchable polymer body comprises an electronic device, corresponding to claims (5 and 24), (10, 29, and 37), (12 and 31), and (19 and 51);

Species 4ee, drawn to an embodiment of the invention in which at least one circuit line is sawtooth shaped with the sawtooth having rounded corners, the stretchable polymer body is poly(dimethylsiloxane), the circuit line is a micron-scale wire, and the stretchable polymer body comprises a microcable, corresponding to claims (5 and 24), (10, 29, and 37), (13 and 32), and (18 and 50);

Species 4ff, drawn to an embodiment of the invention in which at least one circuit line is sawtooth shaped with the sawtooth having rounded corners, the stretchable polymer body is poly(dimethylsiloxane), the circuit line is a micron-scale wire, and the stretchable polymer body comprises an electronic device, corresponding to claims (5 and 24), (10, 29, and 37), (13 and 32), and (19 and 51);

Species 4gg, drawn to an embodiment of the invention in which at least one circuit line is sawtooth shaped with the sawtooth having rounded corners, the stretchable polymer body is poly(dimethylsiloxane), the circuit line is a conductive metal paste, and the stretchable polymer body comprises a microcable, corresponding to claims (5 and 24), (10, 29, and 37), 14, and (18 and 50);

Species 4hh, drawn to an embodiment of the invention in which at least one circuit line is sawtooth shaped with the sawtooth having rounded corners, the

stretchable polymer body is poly(dimethylsiloxane), the circuit line is a conductive metal paste, and the stretchable polymer body comprises an electronic device, corresponding to claims (5 and 24), (10, 29, and 37), 14, and (19 and 51);

Species 4ii, drawn to an embodiment of the invention in which at least one circuit line is sawtooth shaped with the sawtooth having rounded corners, the stretchable polymer body is poly(dimethylsiloxane), the circuit line is a photolytic metal material, and the stretchable polymer body comprises a microcable, corresponding to claims (5 and 24), (10, 29, and 37), 15, and (18 and 50);

Species 4jj, drawn to an embodiment of the invention in which at least one circuit line is sawtooth shaped with the sawtooth having rounded corners, the stretchable polymer body is poly(dimethylsiloxane), the circuit line is a photolytic metal material, and the stretchable polymer body comprises an electronic device, corresponding to claims (5 and 24), (10, 29, and 37), 15, and (19 and 51);

Species 4kk, drawn to an embodiment of the invention in which at least one circuit line is sawtooth shaped with the sawtooth having rounded corners, the stretchable polymer body is poly(dimethylsiloxane), the circuit line is a conductive polymer, and the stretchable polymer body comprises a microcable, corresponding to claims (5 and 24), (10, 29, and 37), (16 and 33), and (18 and 50);

Species 4ll, drawn to an embodiment of the invention in which at least one circuit line is sawtooth shaped with the sawtooth having rounded corners, the stretchable polymer body is poly(dimethylsiloxane), the circuit line is a conductive

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polymer, and the stretchable polymer body comprises an electronic device, corresponding to claims (5 and 24), (10, 29, and 37), (16 and 33), and (19 and 51);

Species 4mm, drawn to an embodiment of the invention in which at least one circuit line is sawtooth shaped with the sawtooth having rounded corners, the stretchable polymer body is poly(dimethylsiloxane), the circuit line is a fluidic circuit line, and the stretchable polymer body comprises a microcable, corresponding to claims (5 and 24), (10, 29, and 37), (17 and 34), and (18 and 50);

Species 4nn, drawn to an embodiment of the invention in which at least one circuit line is sawtooth shaped with the sawtooth having rounded corners, the stretchable polymer body is poly(dimethylsiloxane), the circuit line is a fluidic circuit line, and the stretchable polymer body comprises an electronic device, corresponding to claims (5 and 24), (10, 29, and 37), (17 and 34), and (19 and 51);

Species 5a, drawn to an embodiment of the invention in which at least one circuit line is in the form of an S-shaped channel, the stretchable polymer body is silicone, the circuit line is a conductive ink, and the stretchable polymer body comprises a microcable, corresponding to claims (6 and 25), (9, 28, and 36), (11 and 30), and (18 and 50);

Species 5b, drawn to an embodiment of the invention in which at least one circuit line is in the form of an S-shaped channel, the stretchable polymer body is silicone, the circuit line is a conductive ink, and the stretchable polymer body comprises an electronic device, corresponding to claims (6 and 25), (9, 28, and 36), (11 and 30), and (19 and 51);

Species 5c, drawn to an embodiment of the invention in which at least one circuit line is in the form of an S-shaped channel, the stretchable polymer body is silicone, the circuit line is a conductive wire, and the stretchable polymer body comprises a microcable, corresponding to claims (6 and 25), (9, 28, and 36), (12 and 31), and (18 and 50);

Species 5d, drawn to an embodiment of the invention in which at least one circuit line is in the form of an S-shaped channel, the stretchable polymer body is silicone, the circuit line is a conductive wire, and the stretchable polymer body comprises an electronic device, corresponding to claims (6 and 25), (9, 28, and 36), (12 and 31), and (19 and 51);

Species 5e, drawn to an embodiment of the invention in which at least one circuit line is in the form of an S-shaped channel, the stretchable polymer body is silicone, the circuit line is a micron-scale wire, and the stretchable polymer body comprises a microcable, corresponding to claims (6 and 25), (9, 28, and 36), (13 and 32), and (18 and 50);

Species 5f, drawn to an embodiment of the invention in which at least one circuit line is in the form of an S-shaped channel, the stretchable polymer body is

silicone, the circuit line is a micron-scale wire, and the stretchable polymer body comprises an electronic device, corresponding to claims (6 and 25), (9, 28, and 36), (13 and 32), and (19 and 51);

Species 5g, drawn to an embodiment of the invention in which at least one circuit line is in the form of an S-shaped channel, the stretchable polymer body is silicone, the circuit line is a conductive metal paste, and the stretchable polymer body comprises a microcable, corresponding to claims (6 and 25), (9, 28, and 36), 14, and (18 and 50);

Species 5h, drawn to an embodiment of the invention in which at least one circuit line is in the form of an S-shaped channel, the stretchable polymer body is silicone, the circuit line is a conductive metal paste, and the stretchable polymer body comprises an electronic device, corresponding to claims (6 and 25), (9, 28, and 36), 14, and (19 and 51);

Species 5i, drawn to an embodiment of the invention in which at least one circuit line is in the form of an S-shaped channel, the stretchable polymer body is silicone, the circuit line is a photolytic metal material, and the stretchable polymer body comprises a microcable, corresponding to claims (6 and 25), (9, 28, and 36), 15, and (18 and 50);

Species 5j, drawn to an embodiment of the invention in which at least one circuit line is in the form of an S-shaped channel, the stretchable polymer body is silicone, the circuit line is a photolytic metal material, and the stretchable polymer

body comprises an electronic device, corresponding to claims (6 and 25), (9, 28, and 36), 15, and (19 and 51);

Species 5k, drawn to an embodiment of the invention in which at least one circuit line is in the form of an S-shaped channel, the stretchable polymer body is silicone, the circuit line is a conductive polymer, and the stretchable polymer body comprises a microcable, corresponding to claims (6 and 25), (9, 28, and 36), (16 and 33), and (18 and 50);

Species 5l, drawn to an embodiment of the invention in which at least one circuit line is in the form of an S-shaped channel, the stretchable polymer body is silicone, the circuit line is a conductive polymer, and the stretchable polymer body comprises an electronic device, corresponding to claims (6 and 25), (9, 28, and 36), (16 and 33), and (19 and 51);

Species 5m, drawn to an embodiment of the invention in which at least one circuit line is in the form of an S-shaped channel, the stretchable polymer body is silicone, the circuit line is a fluidic circuit line, and the stretchable polymer body comprises a microcable, corresponding to claims (6 and 25), (9, 28, and 36), (17 and 34), and (18 and 50);

Species 5n, drawn to an embodiment of the invention in which at least one circuit line is in the form of an S-shaped channel, the stretchable polymer body is silicone, the circuit line is a fluidic circuit line, and the stretchable polymer body comprises an electronic device, corresponding to claims (6 and 25), (9, 28, and 36), (17 and 34), and (19 and 51);

Species 5aa, drawn to an embodiment of the invention in which at least one circuit line is in the form of an S-shaped channel, the stretchable polymer body is poly(dimethylsiloxane), the circuit line is a conductive ink, and the stretchable polymer body comprises a microcable, corresponding to claims (6 and 25), (10, 29, and 37), (11 and 30), and (18 and 50);

Species 5bb, drawn to an embodiment of the invention in which at least one circuit line is in the form of an S-shaped channel, the stretchable polymer body is poly(dimethylsiloxane), the circuit line is a conductive ink, and the stretchable polymer body comprises an electronic device, corresponding to claims (6 and 25), (10, 29, and 37), (11 and 30), and (19 and 51);

Species 5cc, drawn to an embodiment of the invention in which at least one circuit line is in the form of an S-shaped channel, the stretchable polymer body is poly(dimethylsiloxane), the circuit line is a conductive wire, and the stretchable polymer body comprises a microcable, corresponding to claims (6 and 25), (10, 29, and 37), (12 and 31), and (18 and 50);

Species 5dd, drawn to an embodiment of the invention in which at least one circuit line is in the form of an S-shaped channel, the stretchable polymer body is poly(dimethylsiloxane), the circuit line is a conductive wire, and the stretchable polymer body comprises an electronic device, corresponding to claims (6 and 25), (10, 29, and 37), (12 and 31), and (19 and 51);

Species 5ee, drawn to an embodiment of the invention in which at least one circuit line is in the form of an S-shaped channel, the stretchable polymer body is poly(dimethylsiloxane), the circuit line is a micron-scale wire, and the stretchable polymer body comprises a microcable, corresponding to claims (6 and 25), (10, 29, and 37), (13 and 32), and (18 and 50);

Species 5ff, drawn to an embodiment of the invention in which at least one circuit line is in the form of an S-shaped channel, the stretchable polymer body is poly(dimethylsiloxane), the circuit line is a micron-scale wire, and the stretchable polymer body comprises an electronic device, corresponding to claims (6 and 25), (10, 29, and 37), (13 and 32), and (19 and 51);

Species 5gg, drawn to an embodiment of the invention in which at least one circuit line is in the form of an S-shaped channel, the stretchable polymer body is poly(dimethylsiloxane), the circuit line is a conductive metal paste, and the stretchable polymer body comprises a microcable, corresponding to claims (6 and 25), (10, 29, and 37), 14, and (18 and 50);

Species 5hh, drawn to an embodiment of the invention in which at least one circuit line is in the form of an S-shaped channel, the stretchable polymer body is poly(dimethylsiloxane), the circuit line is a conductive metal paste, and the stretchable polymer body comprises an electronic device, corresponding to claims (6 and 25), (10, 29, and 37), 14, and (19 and 51);

Species 5ii, drawn to an embodiment of the invention in which at least one circuit line is in the form of an S-shaped channel, the stretchable polymer body is

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poly(dimethylsiloxane), the circuit line is a photolytic metal material, and the stretchable polymer body comprises a microcable, corresponding to claims (6 and 25), (10, 29, and 37), 15, and (18 and 50);

Species 5jj, drawn to an embodiment of the invention in which at least one circuit line is in the form of an S-shaped channel, the stretchable polymer body is poly(dimethylsiloxane), the circuit line is a photolytic metal material, and the stretchable polymer body comprises an electronic device, corresponding to claims (6 and 25), (10, 29, and 37), 15, and (19 and 51);

Species 5kk, drawn to an embodiment of the invention in which at least one circuit line is in the form of an S-shaped channel, the stretchable polymer body is poly(dimethylsiloxane), the circuit line is a conductive polymer, and the stretchable polymer body comprises a microcable, corresponding to claims (6 and 25), (10, 29, and 37), (16 and 33), and (18 and 50);

Species 5ll, drawn to an embodiment of the invention in which at least one circuit line is in the form of an S-shaped channel, the stretchable polymer body is poly(dimethylsiloxane), the circuit line is a conductive polymer, and the stretchable polymer body comprises an electronic device, corresponding to claims (6 and 25), (10, 29, and 37), (16 and 33), and (19 and 51);

Species 5mm, drawn to an embodiment of the invention in which at least one circuit line is in the form of an S-shaped channel, the stretchable polymer body is poly(dimethylsiloxane), the circuit line is a fluidic circuit line, and the

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stretchable polymer body comprises a microcable, corresponding to claims (6 and 25), (10, 29, and 37), (17 and 34), and (18 and 50);

Species 5nn, drawn to an embodiment of the invention in which at least one circuit line is in the form of an S-shaped channel, the stretchable polymer body is poly(dimethylsiloxane), the circuit line is a fluidic circuit line, and the stretchable polymer body comprises an electronic device, corresponding to claims (6 and 25), (10, 29, and 37), (17 and 34), and (19 and 51);

Species 6a, drawn to an embodiment of the invention in which at least one circuit line is in the form of a serpentine channel, the stretchable polymer body is silicone, the circuit line is a conductive ink, and the stretchable polymer body comprises a microcable, corresponding to claims (7 and 26), (9, 28, and 36), (11 and 30), and (18 and 50);

Species 6b, drawn to an embodiment of the invention in which at least one circuit line is in the form of a serpentine channel, the stretchable polymer body is silicone, the circuit line is a conductive ink, and the stretchable polymer body comprises an electronic device, corresponding to claims (7 and 26), (9, 28, and 36), (11 and 30), and (19 and 51);

Species 6c, drawn to an embodiment of the invention in which at least one circuit line is in the form of a serpentine channel, the stretchable polymer body is silicone, the circuit line is a conductive wire, and the stretchable polymer body

comprises a microcable, corresponding to claims (7 and 26), (9, 28, and 36), (12 and 31), and (18 and 50);

Species 6d, drawn to an embodiment of the invention in which at least one circuit line is in the form of a serpentine channel, the stretchable polymer body is silicone, the circuit line is a conductive wire, and the stretchable polymer body comprises an electronic device, corresponding to claims (7 and 26), (9, 28, and 36), (12 and 31), and (19 and 51);

Species 6e, drawn to an embodiment of the invention in which at least one circuit line is in the form of a serpentine channel, the stretchable polymer body is silicone, the circuit line is a micron-scale wire, and the stretchable polymer body comprises a microcable, corresponding to claims (7 and 26), (9, 28, and 36), (13 and 32), and (18 and 50);

Species 6f, drawn to an embodiment of the invention in which at least one circuit line is in the form of a serpentine channel, the stretchable polymer body is silicone, the circuit line is a micron-scale wire, and the stretchable polymer body comprises an electronic device, corresponding to claims (7 and 26), (9, 28, and 36), (13 and 32), and (19 and 51);

Species 6g, drawn to an embodiment of the invention in which at least one circuit line is in the form of a serpentine channel, the stretchable polymer body is silicone, the circuit line is a conductive metal paste, and the stretchable polymer body comprises a microcable, corresponding to claims (7 and 26), (9, 28, and 36), 14, and (18 and 50);

Species 6h, drawn to an embodiment of the invention in which at least one circuit line is in the form of a serpentine channel, the stretchable polymer body is silicone, the circuit line is a conductive metal paste, and the stretchable polymer body comprises an electronic device, corresponding to claims (7 and 26), (9, 28, and 36), 14, and (19 and 51);

Species 6i, drawn to an embodiment of the invention in which at least one circuit line is in the form of a serpentine channel, the stretchable polymer body is silicone, the circuit line is a photolytic metal material, and the stretchable polymer body comprises a microcable, corresponding to claims (7 and 26), (9, 28, and 36), 15, and (18 and 50);

Species 6j, drawn to an embodiment of the invention in which at least one circuit line is in the form of a serpentine channel, the stretchable polymer body is silicone, the circuit line is a photolytic metal material, and the stretchable polymer body comprises an electronic device, corresponding to claims (7 and 26), (9, 28, and 36), 15, and (19 and 51);

Species 6k, drawn to an embodiment of the invention in which at least one circuit line is in the form of a serpentine channel, the stretchable polymer body is silicone, the circuit line is a conductive polymer, and the stretchable polymer body comprises a microcable, corresponding to claims (7 and 26), (9, 28, and 36), (16 and 33), and (18 and 50);

Species 6l, drawn to an embodiment of the invention in which at least one circuit line is in the form of a serpentine channel, the stretchable polymer body is

silicone, the circuit line is a conductive polymer, and the stretchable polymer body comprises an electronic device, corresponding to claims (7 and 26), (9, 28, and 36), (16 and 33), and (19 and 51);

Species 6m, drawn to an embodiment of the invention in which at least one circuit line is in the form of a serpentine channel, the stretchable polymer body is silicone, the circuit line is a fluidic circuit line, and the stretchable polymer body comprises a microcable, corresponding to claims (7 and 26), (9, 28, and 36), (17 and 34), and (18 and 50);

Species 6n, drawn to an embodiment of the invention in which at least one circuit line is in the form of a serpentine channel, the stretchable polymer body is silicone, the circuit line is a fluidic circuit line, and the stretchable polymer body comprises an electronic device, corresponding to claims (7 and 26), (9, 28, and 36), (17 and 34), and (19 and 51);

Species 6aa, drawn to an embodiment of the invention in which at least one circuit line is in the form of a serpentine channel, the stretchable polymer body is poly(dimethylsiloxane), the circuit line is a conductive ink, and the stretchable polymer body comprises a microcable, corresponding to claims (7 and 26), (10, 29, and 37), (11 and 30), and (18 and 50);

Species 6bb, drawn to an embodiment of the invention in which at least one circuit line is in the form of a serpentine channel, the stretchable polymer body is poly(dimethylsiloxane), the circuit line is a conductive ink, and the

stretchable polymer body comprises an electronic device, corresponding to claims (7 and 26), (10, 29, and 37), (11 and 30), and (19 and 51);

Species 6cc, drawn to an embodiment of the invention in which at least one circuit line is in the form of a serpentine channel, the stretchable polymer body is poly(dimethylsiloxane), the circuit line is a conductive wire, and the stretchable polymer body comprises a microcable, corresponding to claims (7 and 26), (10, 29, and 37), (12 and 31), and (18 and 50);

Species 6dd, drawn to an embodiment of the invention in which at least one circuit line is in the form of a serpentine channel, the stretchable polymer body is poly(dimethylsiloxane), the circuit line is a conductive wire, and the stretchable polymer body comprises an electronic device, corresponding to claims (7 and 26), (10, 29, and 37), (12 and 31), and (19 and 51);

Species 6ee, drawn to an embodiment of the invention in which at least one circuit line is in the form of a serpentine channel, the stretchable polymer body is poly(dimethylsiloxane), the circuit line is a micron-scale wire, and the stretchable polymer body comprises a microcable, corresponding to claims (7 and 26), (10, 29, and 37), (13 and 32), and (18 and 50);

Species 6ff, drawn to an embodiment of the invention in which at least one circuit line is in the form of a serpentine channel, the stretchable polymer body is poly(dimethylsiloxane), the circuit line is a micron-scale wire, and the stretchable polymer body comprises an electronic device, corresponding to claims (7 and 26), (10, 29, and 37), (13 and 32), and (19 and 51);

Species 6gg, drawn to an embodiment of the invention in which at least one circuit line is in the form of a serpentine channel, the stretchable polymer body is poly(dimethylsiloxane), the circuit line is a conductive metal paste, and the stretchable polymer body comprises a microcable, corresponding to claims (7 and 26), (10, 29, and 37), 14, and (18 and 50);

Species 6hh, drawn to an embodiment of the invention in which at least one circuit line is in the form of a serpentine channel, the stretchable polymer body is poly(dimethylsiloxane), the circuit line is a conductive metal paste, and the stretchable polymer body comprises an electronic device, corresponding to claims (7 and 26), (10, 29, and 37), 14, and (19 and 51);

Species 6ii, drawn to an embodiment of the invention in which at least one circuit line is in the form of a serpentine channel, the stretchable polymer body is poly(dimethylsiloxane), the circuit line is a photolytic metal material, and the stretchable polymer body comprises a microcable, corresponding to claims (7 and 26), (10, 29, and 37), 15, and (18 and 50);

Species 6jj, drawn to an embodiment of the invention in which at least one circuit line is in the form of a serpentine channel, the stretchable polymer body is poly(dimethylsiloxane), the circuit line is a photolytic metal material, and the stretchable polymer body comprises an electronic device, corresponding to claims (7 and 26), (10, 29, and 37), 15, and (19 and 51);

Species 6kk, drawn to an embodiment of the invention in which at least one circuit line is in the form of a serpentine channel, the stretchable polymer

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body is poly(dimethylsiloxane), the circuit line is a conductive polymer, and the stretchable polymer body comprises a microcable, corresponding to claims (7 and 26), (10, 29, and 37), (16 and 33), and (18 and 50);

Species 6II, drawn to an embodiment of the invention in which at least one circuit line is in the form of a serpentine channel, the stretchable polymer body is poly(dimethylsiloxane), the circuit line is a conductive polymer, and the stretchable polymer body comprises an electronic device, corresponding to claims (7 and 26), (10, 29, and 37), (16 and 33), and (19 and 51);

Species 6mm, drawn to an embodiment of the invention in which at least one circuit line is in the form of a serpentine channel, the stretchable polymer body is poly(dimethylsiloxane), the circuit line is a fluidic circuit line, and the stretchable polymer body comprises a microcable, corresponding to claims (7 and 26), (10, 29, and 37), (17 and 34), and (18 and 50);

Species 6nn, drawn to an embodiment of the invention in which at least one circuit line is in the form of a serpentine channel, the stretchable polymer body is poly(dimethylsiloxane), the circuit line is a fluidic circuit line, and the stretchable polymer body comprises an electronic device, corresponding to claims (7 and 26), (10, 29, and 37), (17 and 34), and (19 and 51).

The species are independent or distinct because the specifics of one species does not require the specifics of a given other species.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, claims 1, 20, and 35 are generic.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which depend from or otherwise require all the limitations of an allowable generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Applicant is advised that the reply to this requirement to be complete must include (i) an election of a species or invention to be examined even though the requirement be traversed (37 CFR 1.143) and (ii) identification of the claims encompassing the elected invention.

The election of an invention or species may be made with or without traverse. To reserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the restriction requirement, the election shall be treated as an election without traverse.

Should applicant traverse on the ground that the inventions or species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the inventions or species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C.103(a) of the other invention.

2. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tammie Heller whose telephone number is 571-272-1986. The examiner can normally be reached on Monday through Friday from 7am until 3:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert E. Pezzuto can be reached on 571-272-6996. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Robert E. Pezzuto  
Supervisory Patent Examiner  
Art Unit 3766

TKH